I'm Glad You Asked

A Digest of Publications from the BC College and Institute Student Outcomes Survey 1996–2006

Student Mobility Patterns:
Tracing The Movement of Former College, University College, and Institute Students In and Out of College Regions
CISO
PAPER

CISO
College & Institute Student Outcomes

BRITISH COLUMBIA
The Best Place on Earth

Ministry of Advanced Education

BC STATS
Ministry of Labour and Citizens' Services

DECEMBER 2006

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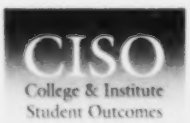

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Library and Archives Canada Cataloguing in Publication Data
Main entry under title:
I'm glad you asked : a digest of publications from the BC College and Institute Student Outcomes Survey 1996-2006 [electronic resource]

Available on the Internet.
Co-published by the Outcomes Working Group and BC Stats.
ISBN: 0772656606

1. Education, Higher - British Columbia - Abstracts. 2. Education, Higher - British Columbia - Evaluation - Abstracts. 3. Universities and colleges - British Columbia - Evaluation - Abstracts. 4. College graduates - British Columbia - Abstracts. I. British Columbia. Ministry of Advanced Education. II. B.C. Outcomes Working Group. III. BC Stats. IV. Title: Digest of publications from the BC College and Institute Student Outcomes Survey 1996-2006.

LB2362.C3B74 2006 378.711 C2007-9600018

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Introduction

This digest is an overview of a decade's analyses of findings from an annual survey of former post-secondary students in British Columbia. The survey is as comprehensive as any in North America with a similar purpose. Its findings have provided many helpful insights into the nature of BC public colleges and their students.

The CISO Survey

The BC College and Institute Student Outcomes (CISO) project annually surveys almost 18,000 former students from all of BC's public colleges, university colleges, and institutes. It is conducted with funding from the Ministry of Advanced Education and from the institutions themselves. Former students are contacted 9 to 20 months after completing all, or a significant portion, of their program and asked to evaluate their educational experience and to talk about their employment, further education, and personal development.

The results of the survey are used by the post-secondary institutions to improve programs and services. The Ministry of Advanced Education (AVED) uses the information for post-secondary policy development and accountability. Students, parents, and the general public can view outcomes facts and figures to help them make informed post-secondary education choices.

The CISO project releases new data from the survey every year. The first release, for the participating institutions and AVED, is done through a web-based tool—the Student Outcomes Reporting System (SORS). There is a "lite" version of SORS, called BC Student Outcomes Reports, that is available to the public through the BC Student Outcomes website http://outcomes.bcstats.gov.bc.ca/SORS/index.asp. CISO also produces annual tabular reports that present students' feedback on programs by institution and a four-page brochure of highlights from the survey that is circulated widely across the province.

Analytical Reports

In addition to the annual feedback on individual programs and institutions described above, the CISO project produces a few thematic, analytical papers and reports that are intended to advance our knowledge of how and why certain outcomes are occurring. Whereas the regular data reporting describes the impacts of BC's college, university college, and institute system, the analytical studies seek a deeper understanding of student behaviour, student learning, and the contributions our post-secondary institutions make to the life of the province.

The CISO analytical publications cover a range that includes short issue papers, answering a single research question; more descriptive information papers, addressing a topic of interest; and full length reports, describing a sub-group of the population or exploring an area of concern. For a decade, these publications have been made widely available on the internet.

About this Digest

Almost every publication that is posted on the CISO website, http://www.bccampus.ca/Publications/index.asp, is described in the following pages, along with the key findings from each. Although the CISO website categorizes each publication according to its format and date of release, this review groups the papers and reports thematically. Where topics have been examined more than once, only the more recent publications are summarized.

The ten-year anniversary of web distribution seems a good occasion to take stock and summarize the key insights about the BC public college sector that the CISO data have made possible.

Learning and Instruction

Supporting Learners: Using a Framework to Interpret Learning-Centred Outcomes

Information Paper using 2004 data, published in 2005 (Vol. 3 No. 2 Summer 2005)

In 2001, CISO's steering committee, the Outcomes Working Group, decided to become more intentional about the learning-centred questions the survey posed by developing a framework to guide questionnaire modification. The framework was used to develop questions to evaluate not only the what and how of learning at post-secondary institutions, but also the services provided by institutions to support learners. This paper explored the use of the framework as a guide for organizing and interpreting data from the survey.

Much of the paper was devoted to assessing the effectiveness of the framework as an organizing tool, by testing the consistency of responses to conceptually similar questions. The paper also looked at the results of many of the learning-centred questions, and several interesting findings emerged:

- Students were quite positive about their institution's services, but the use of these services varied considerably. Certain ratings varied by the size of the institution, with larger institutions receiving somewhat lower ratings for admissions services, program advising, and learning support services.
- Campus facilities and services ratings also showed some variation by institutional size—respondents from small and medium-sized institutions were more likely to say the condition of buildings and grounds was good or very good.
- A majority of 81 percent said the quality of their instruction was good or very good.
- Almost 80 percent of respondents said their educational experience helped them improve their understanding of themselves—virtually all respondents felt that the question was relevant.

The paper concluded that, overall, institutions are meeting their goals as learner and learning-centred institutions, and that the framework of learning-centred practice can be used as a guide to help institutions interpret data from the CISO survey's learning-centred questions.

A framework of learning-centred practice was developed to guide questionnaire modification.

CURRICULUM

Is the curriculum coherent? Is it relevant to learners' goals? Are the learning materials current? Is it flexible (e.g., using alternate delivery methods) and rigorous (e.g., workload is appropriate)?

TEACHING & LEARNING PROCESSES

What is the quality of instruction? Does the teaching process support learner–faculty contact in and out of class? Does it promote sharing ideas and active learning?

LEARNER & LEARNING SUPPORT SERVICES

How do learners rate pre-entry services (e.g., admissions), direct learner support (e.g., registration and academic advising), and direct learning support (e.g., safe environment and library services)?

CAMPUS LIFE

How do events and activities on campus or institutional facilities and services (e.g., buildings and athletic facilities) help learners connect with peers, instructors, or institutions?

LEARNING GAINS

How well are learners helped to gain knowledge, develop abilities, and grow socially and personally? How have the knowledge and skills gained contributed to preparation for employment, further study, and responsible citizenry?

Learning Online: Distributed Education in 2004

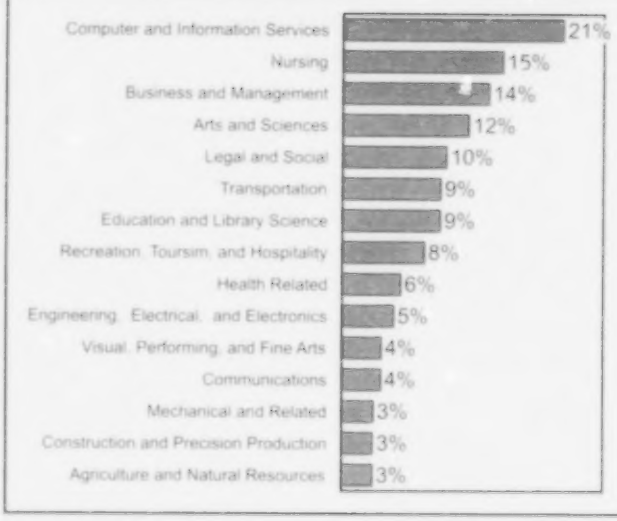
Information Paper using 2000 and 2004 data, published in 2005 (Vol. 3 No. 1 Spring 2005)

Distributed education involves the use of communications technology. Frequently used for distance learning, educational technologies are also used to enrich students' classroom experience, through online discussion groups, interactive simulations, and so on.

The 2004 CISO survey found 10 percent of former students had taken at least one course using distributed education, up from 7 percent four years earlier. In that period, there has been a noticeable shift towards online delivery and away from such delivery methods as videoconferencing. Just over half of the students taking theses courses chose distributed education for the convenience or because they liked the format; slightly under half said the course they wanted was only available online. Most (94 percent) of the distributed education respondents took a course that was delivered either partially or entirely online.

A large majority of former online students said they were satisfied or very satisfied with the delivery method. Almost as many gave high ratings to instructor and technical support, and most said they found it was easy to communicate with other students. Respondents who took courses entirely online were more likely to say they liked the flexibility and convenience. Those who took courses delivered partially online were more likely to report technical problems. Students' satisfaction with both formats has increased since 2000.

Former Computer and Information Services students were the most likely to have taken online courses


Computer and Information Services 21%
Nursing 15%
Business and Management 14%
Arts and Sciences 12%
Legal and Social 10%
Transportation 9%
Education and Library Science 9%
Recreation, Toursim, and Hospitality 8%
Health Related 6%
Engineering, Electrical, and Electronics 5%
Visual, Performing, and Fine Arts 4%
Communications 4%
Mechanical and Related 3%
Construction and Precision Production 3%
Agriculture and Natural Resources 3%

In general, those who took online courses rated aspects of their post-secondary programs the same way that all other former students did, with virtually no differences for quality of instruction, teacher contact, organization of the program, and so on. It is significant that the online students were positive about instructor support and interactions with other students, because these were two of the main concerns of former students who did not take distributed education and did not want to.

Respondents from four of the fifteen program groupings used in the paper's analysis had above-average rates of participation in at least one online course. Half of the respondents who took an online course were from computer and information services, nursing, or business programs. The lowest rates of participation were, not surprisingly, in mechanical, construction, and agricultural fields.

Understanding Student Satisfaction

Issue Paper using 2002 data, published in 2003 (Vol. 3 No. 1 Autumn 2003)

Every year, about 85 percent of former students say they were mainly or completely satisfied with the program of study they left—in 2002, only 2 percent said they were not at all satisfied. However, to grasp the complexity of the learning experience, it is important to know not only students' degree of satisfaction but also the factors that contribute to their satisfaction. Without understanding the determinants of satisfaction, it is difficult for institutions to make appropriate adjustments to improve program quality.

Certain characteristics of students were associated with slightly higher levels of satisfaction: females and older students tended to report higher levels of satisfaction, as did those who took nursing or health-related programs. Also, if the student's institution was located outside the Lower Mainland (often the only institution within commuting distance) students were more likely to give high satisfaction ratings. While institutions cannot change these demographic factors, an awareness of them helps with interpreting survey results.

There are six dimensions of the student experience that institutions can influence; each dimension is addressed in the CISO survey through a number of questions.

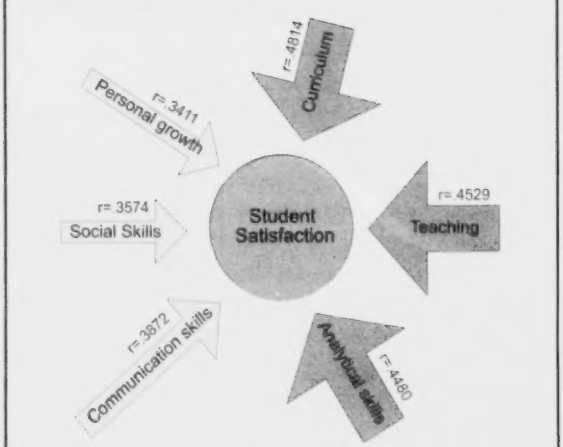
1. Curriculum – content, organization, relevance
2. Teaching – quality, availability outside class, tests
3. Analytical skills growth – problem solving, learning on one's own
4. Communication skills growth – oral, writing, and reading comprehension
5. Social skills growth – work with others, develop supportive relationships
6. Personal growth – self understanding, values clarification, cultural awareness

All six dimensions were positively but mildly associated with satisfaction. The strongest relationship with satisfaction was the curricular dimension, followed closely by teaching and analytical skills.

Student satisfaction rose with program completion and higher grade point averages. While there was almost no relationship between satisfaction scores and simply being employed after college, those in training-related jobs were more satisfied than those in other jobs. In contrast, taking further education was not an indicator of either high or low satisfaction.

The implications of this analysis for institutions are that they need to pay particular attention to ensuring curriculum content is appropriate, up-to-date, and relevant. They should also focus on providing quality instruction, encouraging the development of analytical skills, and helping students find training-related employment.

Relationship between dimensions of educational experience and satisfaction



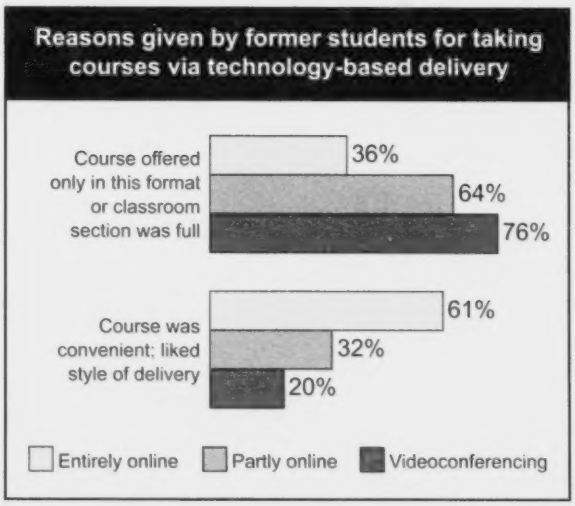
Note: All measures (r) are partial correlations.
1 is a perfect positive correlation, while 0 denotes no relationship.

Technology-Based Course Delivery: Online and Via Videoconferencing

Issue Paper using 2000 data, published in 2002 (Vol. 2 No. 4 Spring 2002)

A more recent paper on this topic is summarized on page 9, but the 2002 analysis is mentioned here because it describes the pioneering experiences of students who were among the first to take courses using the new technologies.

In 2000, about 5 percent of survey respondents (970 former students) had taken at least one of their courses entirely or partly online, or via videoconferencing. Videoconferencing was less common than online instruction, and was concentrated in the program areas of Arts & Sciences and Business. The majority of respondents who took a technology-based course said they did so because the course was offered only in that format or because the classroom section was full.



A majority of those who used learning technologies were satisfied with the experience (70 percent were satisfied or very satisfied). Those who took the most courses were the most satisfied, a significant finding in that they may not have taken those courses by choice.

Older respondents had above average satisfaction levels, which could be a reflection of different expectations or a greater appreciation of the flexibility in scheduling and location that the technologies permitted.

While the survey information reflected the limited use of the technologies, it also gave some indication of the potentially positive impact of these non-traditional forms of course delivery.

Program Characteristics

Trades Training in BC Colleges, University Colleges, and Institutes

Information paper using 2005 data, published in 2006 (Vol. 4 No. 1 Spring 2006)

Trades training programs are usually short programs—one year or less—that include hands-on training with tools and equipment. Students obtain skills that will help them find an apprenticeship sponsor or prepare them for direct entry into the work force. The types of programs vary widely, from carpentry to welding and culinary to upholstery, but students are fairly homogeneous: the majority are males under age 30. (The former trades students surveyed were slightly younger on average than those from other non-degree applied programs in BC.)

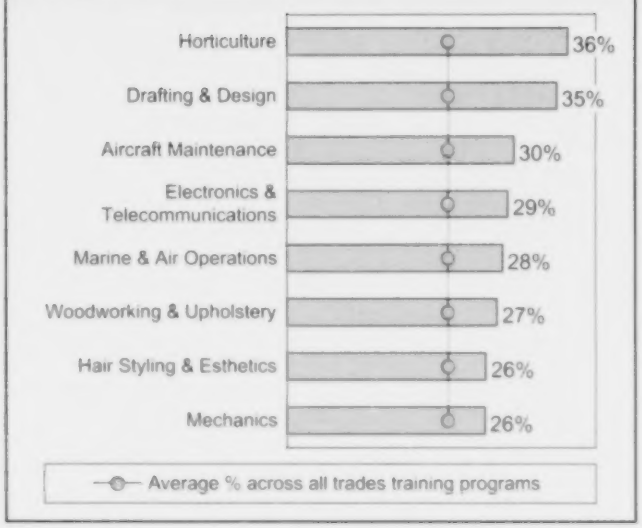
Most former trades training students were satisfied with their education, but they gave slightly lower ratings to program organization and courses being up to date. Some respondents thought that their program was too short to cover the material needed for employment in their trade.

Over three-quarters of survey respondents said they were in jobs related to their training. The median wage one year after leaving their college program was $15 per hour, but depending on the field of study, the median ranged from $9 to $23 per hour.

Not all trades programs lead to apprenticeships, but half the former students surveyed had attempted to become apprentices. Of those who tried, 69 percent were successful. Of those who were unsuccessful, over two-thirds said the reason was that they could not find an employer. Another 11 percent said they did not have enough training or experience.

Former students' employment outcomes were very good, and there is no question that they were satisfied with the trades training they received, but the survey results show there are two areas that could benefit from some attention: helping those who want to find an apprenticeship sponsor and developing a process to ensure courses are kept up to date.

The percentage of trades training students who thought their program was too short was higher than average for certain programs



2005 ABE Survey: Report of Findings from the BC College and Institute Adult Basic Education Outcomes Survey

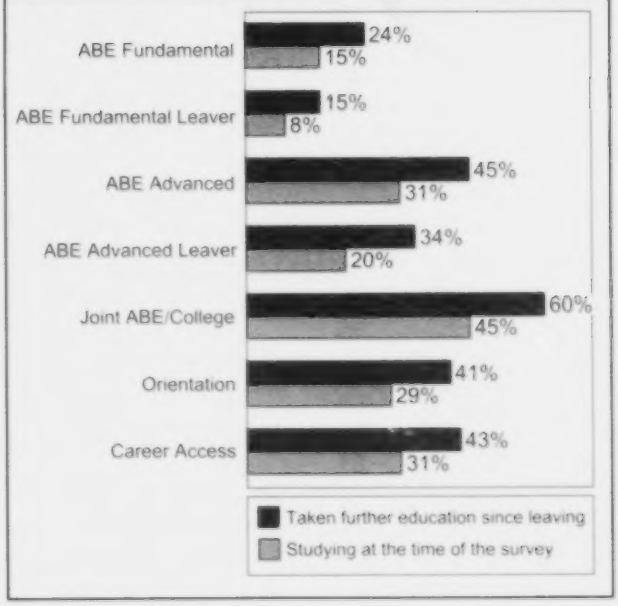
Special report (42 pages) using 2005 data, published in 2006

Adult Basic Education (ABE) students taking college preparatory courses are usually upgrading to enter other post-secondary programs; therefore, they are not included in the CISO survey, which has a mandate to look at students leaving college. Nevertheless, the CISO steering committee, the Outcomes Working Group, partnered with a provincial task force of ABE educators and government representatives to conduct a survey of ABE students.

ABE, sometimes called Developmental Studies, includes a range of academic levels and students. Many ABE students are concurrently enrolled in other college programs and are simply doing remedial work in English or Mathematics. Others are exclusively taking ABE courses at the high school level. The majority of survey respondents had already completed high school or taken GED for high school equivalency. The percentage of respondents with high school graduation ranged from 91 to 46 percent, depending on the particular category of ABE students.

Over 90 percent of respondents were very satisfied or satisfied with the courses they took. Even 85 percent of the students who left before completing any of their ABE courses were satisfied. Overall, 84 percent of respondents thought that the quality of the instruction they received was good or very good.

Further non-ABE post-secondary education taken by ABE completers and early leavers



The extent to which students completely or mostly met their main goal for enrolling varied. Around 80 percent of students in the more advanced ABE levels achieved their goals, whereas students in the lower levels, who sometimes did not complete their courses, had goal achievement rates closer to 50 percent. Given the challenging characteristics of the subpopulations and their past lack of success in the educational system, it is not immediately evident whether a 50 percent goal achievement rate is all that can reasonably be expected.

ABE is intended to be both an end in itself and a bridge to further study. At some point after respondents left their courses, many enrolled in non-ABE further education—the percentages ranged from 15 percent of ABE Fundamental students who left without completing a course to 60 percent of joint ABE/college students. A large majority of respondents who continued their studies said they were very well or somewhat prepared by their ABE or career preparation course.

2005 Apprenticeship Survey Summary Report

Special report (36 pages) using 2005 data, published in 2005

Apprenticeship is a form of formal on-the-job learning that lasts for several years and includes a classroom component of several weeks' duration each year. As apprentices are not part of the regular CISO survey, the CISO steering committee, the Outcomes Working Group, partnered with the Ministry of Advanced Education, the Industry Training Authority, 13 public post-secondary institutions and 9 private institutions to conduct a pilot survey of graduates of this component of the BC post-secondary education system.

The Graduate Follow-up Survey of Apprenticeship Students from BC Public and Private Post-Secondary Institutions was conducted in February and March of 2005. There were 1,156 respondents to the survey, from 29 apprenticeable trades—four of those trades accounted over half the survey respondents.

Four trades accounted for half of the survey respondents

	Respondents	Distribution
Automotive Mechanics	181	15.7%
Carpentry	159	13.8%
Electrician	150	13.0%
Machinist	102	8.8%
All other trades	564	48.8%
TOTAL	1,156	100%

Former apprentices were asked about their educational background: 86 percent had completed high school, and 10 percent had been in a high school apprenticeship program. Almost half of those surveyed had some previous post-secondary education, and 29 percent had actually completed a post-secondary credential.

Former apprentices were especially pleased with the instruction they received during the in-school portion of their training. They were not as ready to give high ratings to equipment and materials, and the quality of computers, in particular, pleased only a small majority. Most gave respectably high ratings to the content of their training, although "being up-to-date" could be better. Overall, a large majority said they were completely or mainly satisfied with their in-school experience.

Workplace training items were also rated highly, although on-the-job mentoring did not fare as well as did the quality of in-school instruction. A large majority of 90 percent said their workplace experience was very or somewhat related to their in-school training.

The suggestions that former students made for improving their apprenticeship experiences were remarkably consistent and focused on "more": more time, more variety, more experience, and so on.

At the time of the survey, most former apprentices were employed, and most in their apprenticed trades. Of the employed respondents, 79 percent had had their current employer for at least one apprenticeship placement. Most employed respondents—95 percent—said the knowledge and skills they gained from their in-school training was useful in performing their jobs.

Outcomes of Former College and Institute Students from High-Tech Programs

Issue paper using aggregated data from 1995 – 1998, published in 2000 (Vol. 1 No. 1 Spring 2000)

In the high-tech sector, decade-old data can be ancient history. Nevertheless, this issue paper using data from the late 1990s provides a helpful starting point for any examination of the current situation.

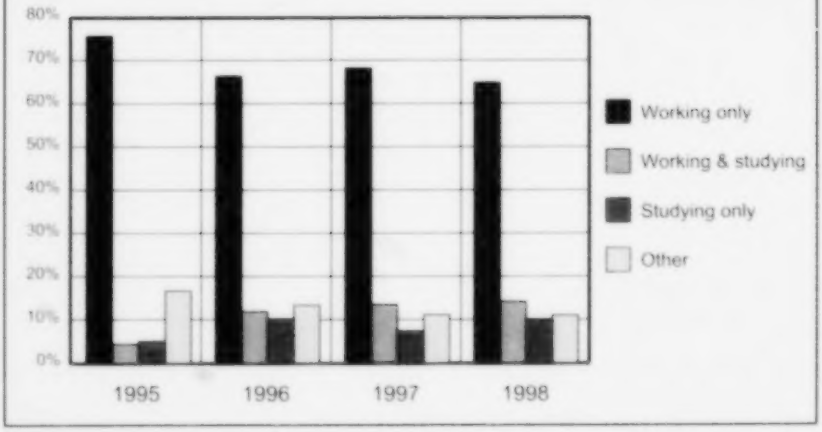
Evaluating the outcomes of former college, university college, and institute students whose programs were intended to lead to employment in this sector is challenging since there are no consistent criteria or definitions to identify post-secondary programs that are considered high tech. High-tech fields of study at colleges and institutes are included within a number of broader program groupings. For this analysis, high-tech programs from the following categories were selected.

- Engineering, Electrical and Electronics
- Computer and Information Science
- Construction and Precision Production
- Visual, Performing and Fine Arts
- Business and Management

Except for Visual, Performing and Fine Arts, high-tech programs overwhelming enrolled males, with four males for every female. Students were also older than the average college student.

Seventy percent of respondents said they had enrolled to obtain job skills. The next most commonly cited goal was to decide on, or change, a career. Other popular goals included learning and improving skills. Approximately 84 percent of former students said they completely or mostly achieved their main goal for enrolling.

Current activity of former high-tech students, 1995 to 1998



When they were surveyed, 80 percent of former high-tech students were either working or working and studying. The rate at which respondents continued their education, whether studying only or both working and studying, appeared to increase between 1995 and 1998.

Most employed former high-tech students felt their studies were very or somewhat useful for getting and performing their jobs.

Special Populations

A Comparison of Former College, University College, and Institute Students: Short Stay Students Versus Completers

Information paper using 2003 data, published in 2004 (Vol. 2 No. 1 Spring 2004)

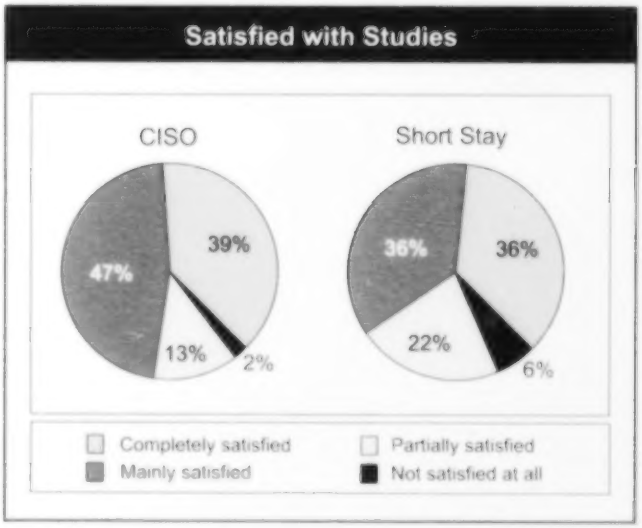
This information paper compared the characteristics and outcomes of short stay students from the 2003 BC College and Institute Short Stay Pilot Survey with respondents from the 2003 BC College and Institute Student Outcomes (CISO) Survey. All of the CISO respondents had completed at least 24, and often 60 or more, credits. The former students defined as "short stay" completed 9 to 23 credits.

While less than 20 percent of CISO respondents studied the Arts and Sciences, almost two-thirds of short stay students were from this field. This is a strong indication that a short stay reflects not so much the characteristics of the student as of the program: credits earned in Arts and Sciences transfer to university on a course-by-course basis (graduation is not required), courses are accessible to part-time students and the programs usually have open admissions.

Although in comparison with CISO students, short stay students were less likely to say they achieved their main objective for enrolling, had lower grade point averages, and were less satisfied with their studies, their outcomes were still reasonably good. What is perhaps more surprising, and more significant for institutions, is that short stay students rated the quality of instruction and the organization of their program as highly as did CISO students. Thus a short stay is not necessarily an indication that the institution has served the student inadequately.

Overall, former short stay students went on to further studies at a slightly higher rate than did CISO respondents (except CISO respondents from the Arts and Sciences). Short stay respondents were also more likely to switch fields of study and to continue their studies at a college or institute, rather than at a university.

While it is difficult to generalize, the comparison with CISO students reinforces the conclusion that many short stay students enrol in a college, university college, or institute to clarify their educational and personal goals, using their courses as stepping stones to further education or even to decide if post-secondary studies are right for them.



Short Stay Summary Report

Special report (12 pages) using 2003 data, published in Spring 2003

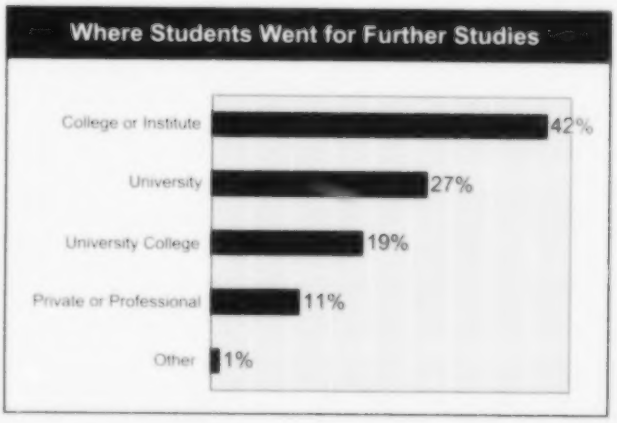
Six public post-secondary institutions funded the 2003 BC College and Institute Short Stay Pilot Survey—a special survey of former students who completed too few courses to be eligible for the regular CISO survey. (The CISO minimum is 24 credits; the former students defined as "short stay" completed 9 – 23 credits.) Did these former students, who completed only 30 to 77 percent of their first year, view themselves or their institutions as failures? Why did they leave after only a short stay at college? What did they do subsequently?

The former students surveyed rated a number of possible reasons for deciding to leave their institutions—the top three reasons were:

- Completed all the credits needed or courses intended
- Changed mind about program or job goals
- Transferred or qualified for admission elsewhere

About 60 percent of the short stay students surveyed said that they had "mostly or completely" achieved their original objective for enrolling. Only about one fifth said that their original objective was not met at all. Regardless of whether they achieved their original objective or not, 77 percent described their educational experience as worthwhile. There were no differences in program satisfaction ratings between those respondents who went on to further study and those who did not.

In the year since leaving their institution, almost half had taken some further studies—most often as full-time students. Over one-quarter of those taking further studies went to universities, close to two-thirds went to CISO institutions (colleges, university colleges, or institutes), and others went to private institutions or professional organizations.



In many respects, short stay students appeared similar to other former students and, like other students, short stay students left their program with their share of successes and failures. The mere fact that they completed only a handful of courses is not in and of itself a sign of problems; each student's individual circumstances need to be considered. The findings from this pilot survey indicated that the majority of short stay students had a positive and useful post-secondary educational experience.

2001 BC College and Institute Aboriginal Former Student Outcomes

Special report (49 pages) using 2001 data with comparisons to earlier years, published in 2002

In the 2001 CISO survey, 4.1 percent of former students identified themselves as Aboriginal, up from 2.8 percent in the 1995 survey. Two-thirds were female and their median age was 29—four years older than non-Aboriginal former students. Aboriginal former students were much more likely to have children.

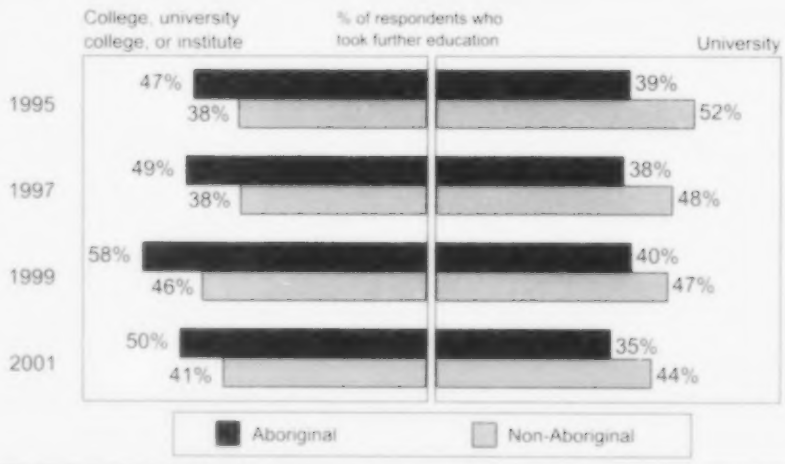
Aboriginal respondents chose a wide-range of educational programs and, for the most part, made program choices that were similar to those made by non-Aboriginal respondents. They took legal and social programs at significantly higher rates, however. They were less likely to report using funds from family, employment, and personal savings to finance their studies. For those who did borrow money, their total debt was similar to that of non-Aboriginal respondents (possibly because of Indian Band Funding, which was a top source of funding for 35 percent of Aboriginal students).

Aboriginal former students reported that their experiences with their institutions were good; they usually gave higher ratings to their institutions than non-Aboriginal respondents did. All respondents were asked how their programs might be improved and of all the Aboriginal former students who gave suggestions, only a handful addressed a lack of sensitivity to First Nations issues.

Employment outcomes have been less positive, with full-time employment rates lagging behind those of non-Aboriginal former students. Nevertheless, employed Aboriginal respondents were more likely to say that their job was related to their college, university college, or institute training and that their education was useful in performing their jobs.

The percentage of survey respondents who take further education after leaving their college and institute programs has increased over time, and the rates for Aboriginal respondents are not too far behind those of non-Aboriginal respondents. Aboriginal respondents who went on to further studies were somewhat more likely to choose a college, university college, or institute than a university.

Type of institution chosen for further education



Gender Differences in BC College and Institute Student Outcomes

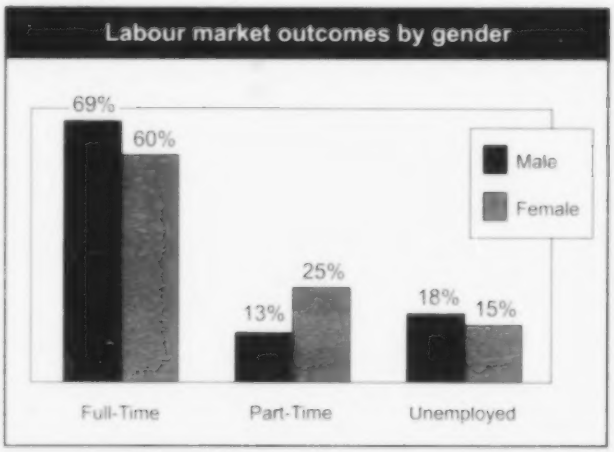
Issue paper using 1998 data, published in 2000 (Vol. 1 No. 2 Spring 2000)

The lower academic achievement of boys compared to girls in the K–12 educational system has caused some concern. The CISO survey has revealed that similar gender differences exist in the college and institute system; however, the out-of-school outcomes of former college, university college, and institute students are not consistent with their academic performance.

Females achieved higher college GPAs than males, even when adjustments were made for females' different program selections and for the way grade distributions differ by program. Females were also slightly more satisfied with their post-secondary studies. These two dimensions, grades and satisfaction, along with higher college participation rates, indicate females are slightly outperforming males academically.

Upon leaving their colleges, university colleges, or institutes, both male and female respondents entered the labour force and continued their studies at similar rates. Once in the labour force, however, there was a marked difference between each gender's experiences.

Compared with males, female respondents found that their training was more useful in getting and performing their jobs and that their jobs were more related to their training. They were less likely to be unemployed but more likely to be employed part-time, perhaps reflecting the need to balance work and family or perhaps resulting from the types of occupations they tended to pursue.



Traditional gender roles were reflected in the training-related employment that former students chose. The traditional "caring occupations," which were most common with female students, historically pay less than technical/trades occupations. Wage data indicate there was a marked difference between female and male full-time salaries. This wage gap was even more pronounced when the different rates of part-time work were taken into account.

The paper concluded that although female students are more successful in school, after leaving post-secondary education, males do better in the labour market.

(Note that the Summer 2003 paper, Labour Force Issues—Selected Topics, *found that income disparities between males and females in the same occupational field disappear for those enrolling in longer post-secondary programs.)*

1998 Outcomes of Former Students with Disabilities

Special report (20 pages) using 1998 data, published in 1999

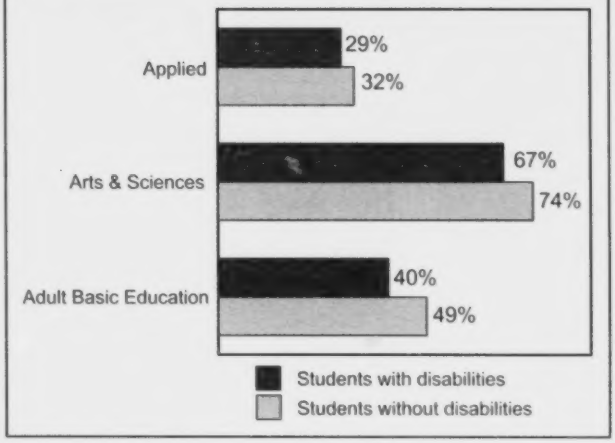
Approximately 6 percent of survey respondents reported having a long-term condition or health problem that limits, or which they feel is perceived by others as limiting, the kind or amount of activity they can do in the workplace. With a median age of 33 at the time of the survey, students with disabilities were eight years older than their counterparts without disabilities. Respondents with disabilities were more likely to have enrolled in their college program to attain job skills than were respondents without disabilities.

Students with disabilities performed as well academically as did other former students. They were generally very satisfied with the education they received. Although they were less likely to say they achieved their main goal, they were highly satisfied with their college experiences and with the help they received to develop skills. This satisfaction reflects well on the institutions that work to provide educational services to students with special needs.

The challenges that this group of students face upon entering the workforce were evident in their employment outcomes. They were less likely than former students without disabilities to be participating in the labour force and less likely to be employed. Most respondents with disabilities who were not in the labour force said that personal circumstances, such as health, were keeping them from looking for a job. However, respondents with disabilities who participated in co-operative education programs (involving periods of paid employment as part of their academic programs) tended to have better employment outcomes than other former students with disabilities.

Consistent with their original goal of attaining job skills, students with disabilities were a little less likely to transfer to other institutions for further education after leaving their college programs.

Respondents who continued their studies, by program



(ABE students were included in the CISO survey for three years, 1997–2000; now they are surveyed separately. For more information on ABE students, see page 15.)

1997 Outcomes of Former University, College, and Institute Co-op Students

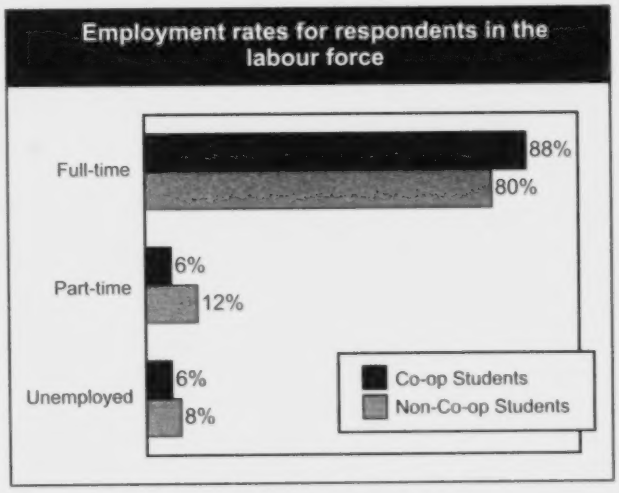
Special report (27 pages) using 1997 data, published in 1999

Co-operative education consists of paid semesters of approved full-time employment that are interspersed throughout a student's regular program of studies. Students usually have to maintain a satisfactory GPA to participate in co-op education, to work in a job that is related to their studies, and to write a reflective piece about what they learned during each term of employment.

This analytical report looked at respondents from the 1997 CISO survey and from the BC Universities' Follow-Up Survey of 1996 Graduates. The CISO respondents selected for this analysis were from Applied programs—these are programs designed to lead to employment in a specific field.

The CISO respondents who completed a co-op program were slightly older and more likely to be male than non-co-op students, but both groups had similar educational backgrounds. Their goals differed, though, with 72 percent of co-op students saying "job skills" were their main reason for enrolling, and only 57 percent of non-co-op students saying the same.

Proportionately, more co-op students than non-co-op students completed their studies, but both groups felt they achieved their main reasons for enrolling. After leaving their college, university college, or institute programs, and consistent with their original goals for enrolling, former co-op students were not as likely to pursue further education. Rather, they entered the labour force at above average rates and tended to do well there.



Former co-op students were more likely than non-co-op students to be in a training-related job and to have full-time employment. These positive outcomes are cumulative, with the result that co-op programs succeeded in meeting their two key goals of enriching students' educational experience and improving students' post-graduation job prospects.

(This study was not a comparison of the university survey and CISO respondents, and only the findings pertaining to CISO students are reported here.)

Liberal Education and Personal Growth

Developing Citizens: The Role of Personal and Social Development in Education

Issue paper using 2000 data, published in 2001 (Vol. 2 No. 2 Autumn 2001)

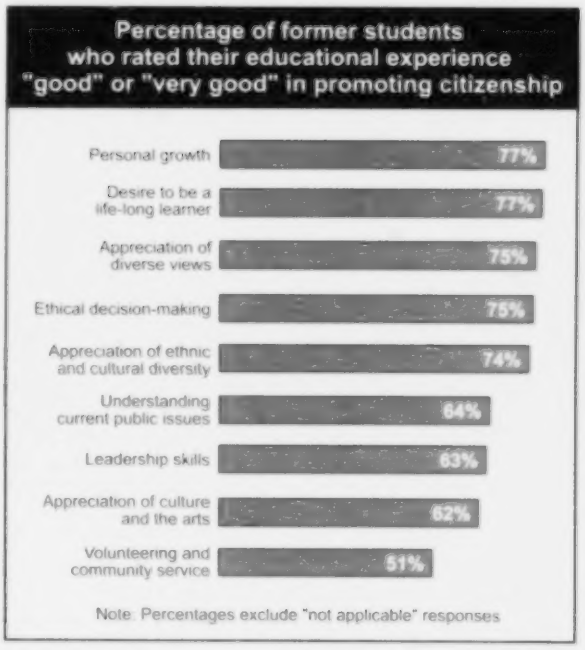
An important function of education is to help students develop into socially responsible, mature citizens who understand current public issues, appreciate the arts and life-long learning, and who accept diverse views in a multicultural society.

The majority of former students who rated items on citizenship preparation thought that their programs and broader educational experiences did a good job of helping them to develop in several personal and social areas.

In general, students who were satisfied with their studies or who were from people-oriented programs (e.g., education or nursing) gave higher ratings, as did females and older students. Females tend to gravitate towards people-oriented programs.

Depending on their program, a significant proportion of respondents reported that some citizenship questions were "not applicable." Personal growth and the desire for life-long learning were seen as the most applicable, while volunteering and community service were the least applicable, followed by appreciation of culture and the arts.

The programs with the highest proportion of not applicable responses were also those with the highest proportion of males, e.g., construction and transportation. Younger respondents tended to say personal and social development were applicable, irrespective of gender. Former students with previous post-secondary experience, on the other hand, were slightly less likely to report that the citizenship questions were applicable to them.

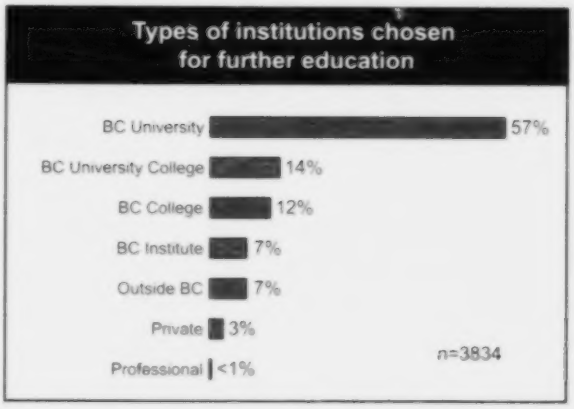


(A related paper is The Generic Skills Needed in the Labour Force *summarized in the Labour Market section.)*

Further Education of Former Arts and Sciences Students

Issue paper using 2000 data, published in 2001 (Vol. 2 No. 1 Summer 2001)

Almost all Arts and Sciences courses are university transferable, facilitating the movement of students between institutions. The CISO project surveys former Arts and Sciences students who have completed at least 80 percent (24 credits) of their first year. Of these, three-quarters go on to further studies after leaving their original post-secondary institution. In 2000, the majority of those continuing their studies went to a BC university.



The likelihood of going on to further education increases with the number of credits earned in the original institution and decreases with age. Younger respondents were more likely to go to a university, whereas older respondents were more likely to enrol in a university college or an institute.

When continuing their education, former Arts and Sciences students seemed more intent on getting into their preferred program than attending their first choice institution: 95 percent were in their preferred program, compared to 89 percent in their preferred institution.

Eighty-four percent were able to enrol in all the courses they wanted in their first term of subsequent study, although the rate varied across institutions from a low of 69 percent to a high of 96 percent. Course credits generally transferred successfully.

Most students perceived a connection between their former studies in the Arts and Sciences and their subsequent studies, especially if they went to a university. However, this perceived connection does not necessarily mean they remained in Arts and Sciences. Because these courses are foundational for studies in a number of professional fields, only about half the respondents remained in Arts and Sciences. Others went on to business programs, education and library science, social and legal programs, and many others.

Ninety percent of respondents felt prepared for further study, although only about half felt "very well" prepared. Those going to university felt better prepared than those who went to a college or a university college (perhaps reflecting the greater propensity of students entering college or a university college to have switched fields of study.)

1998 Outcomes of Former Arts and Sciences Students

Special report (23 pages) using 1998 data, published in Spring 2000

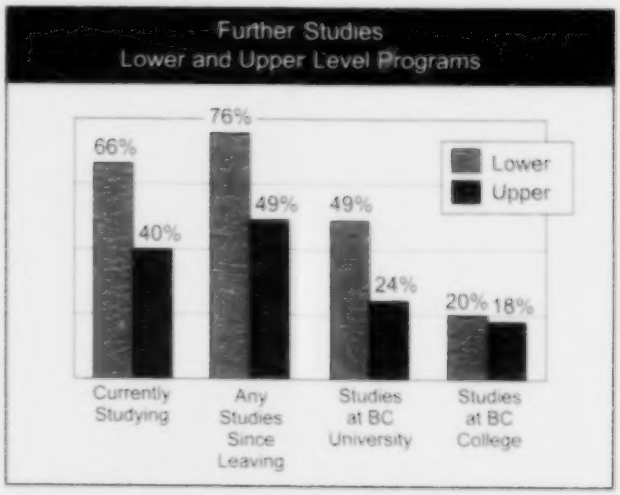
The outcomes of lower division (1 and 2 year) Arts and Sciences students need to be distinguished from former students who completed upper division at a university college, i.e., who were in years 3 and 4 of a bachelor's degree program. Upper division former students were much more likely to be in the labour force and less likely to continue their studies than were lower division respondents.

Former Arts and Sciences students tended to be female and young—61 percent were female, and 66 percent were age 25 or younger at the time of the survey. Almost all were high school graduates (high school graduation is not necessarily an admission requirement for colleges). Ten percent had already obtained a post-secondary credential prior to enrolling in their Arts and Sciences program.

Respondents had many reasons for enrolling in their programs; overall, employment-related reasons were less important than goals for academic attainment. Older students were more likely than younger ones to feel they met their goals. Most of the former students who had academic goals when they enrolled said they met them; those with job-related goals were less likely to have achieved their objectives.

Although academically oriented, three-quarters of respondents were in the labour force at the time of the survey. Completing higher education had a positive effect on employment, leading to positions in highly skilled occupations. Approximately 64 percent of employed upper level respondents who were no longer studying were working in technical, paraprofessional, professional, or managerial positions. Lower division respondents were most frequently in Sales and Services occupations. The occupations of lower level respondents after they left their programs resembled those that upper level respondents had before they left.

Sixty-four percent of former Arts and Sciences students were studying at the time of the survey and a further 10 percent had enrolled at some point during the year between leaving college and participating in the CISO survey. Almost half of the lower division respondents who were studying were at a university; the majority were in a field of study that they considered to be a natural progression from their former studies. Close to 90 percent felt well or very well prepared by their Arts and Sciences programs.



Labour Market

Labour Force Issues—Selected Topics

Information paper using 2002 data, published in 2003 (Vol. 1 No. 2 Summer 2003)

The CISO survey confirms the common sense expectation that former students consistently have better labour market outcomes than people with no post-secondary education. This analytical paper sought to explore labour market topics that might not be so obvious.

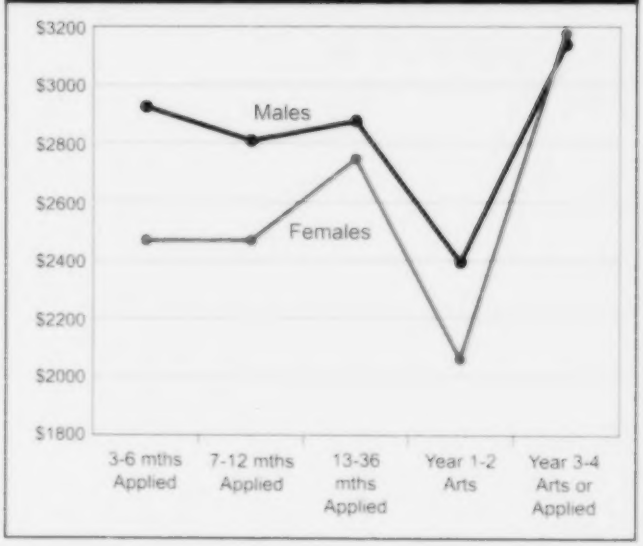
Former students' labour force participation and employment rates were similar across most regions in BC; the differences that existed between regions mirrored differences in rates for the general population 15 years and older. On the other hand, age and gender had significant impacts on employment outcomes, but in ways that are more complex than appear at first.

In general, older former students had better outcomes: they were more likely to be employed and more likely to have full-time, training-related jobs. They also enjoyed higher salaries. In all age groups, gender differences emerged. Women were more likely than men to work in part-time jobs and, on average, they earned less income even when working full-time. Females tended to be in occupations requiring higher skill levels, but even in occupations requiring the same skill level, males generally had higher salaries than women.

The above findings are not startling, but with further analysis, some complexities emerged. The largest occupational group, Sales and Service, accounted for 24 percent of jobs and had fairly equal representation of males and females. Females, however, tended to be in lower skill-level jobs. The second largest occupational group (Business, Finance and Administration, with 20 percent of respondents) was three-quarters female.

Generally speaking, longer post-secondary programs lead to higher annual earnings. What is significant is that income disparities between males and females disappeared for those enrolling in longer programs. In shorter applied programs, males tended to enter such fields as construction and mechanics, while females gravitated towards health and business programs. These fields have disparate average salaries. Nevertheless, the paper concluded that females have the most to gain from attending longer educational programs.

Average full-time monthly salary by program length and gender

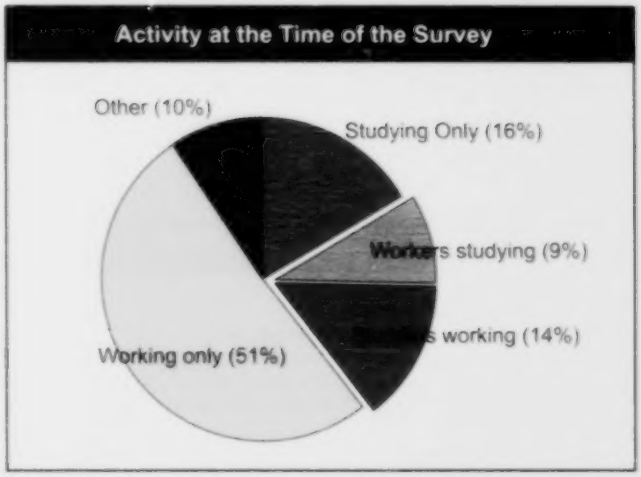


Outcomes of Working Students: Workers Who Study versus Students Who Work

Information paper using 2002 data, published in 2003 (Vol. 1 No. 1 Spring 2003)

At the time of the 2002 CISO survey, 23 percent of former students reported that they were both studying and working.

This analytical paper set out to answer the question, Is it appropriate to compare the employment outcomes of former students who are working while they continue their studies with outcomes of former students who are working only? Further, the paper asked, Is there a difference between workers who study and students who work? To explore this issue, the 2002 survey asked all respondents who were working and studying at the time of the survey if they considered themselves students or workers.



The answer to the first question is that it is appropriate to include only those working students who perceive themselves to be primarily workers in measures of labour market outcomes. The other working students have characteristics that make it more appropriate to group them with survey respondents who were studying only. Thus the distinction between workers studying and students working is an important one.

Students working tended to have part-time jobs that were not training related, jobs that were sometimes obtained before they left their college and institute programs and were frequently in sales and services. In other words, they were disproportionately continuing with their student jobs rather than entering career track employment. This conclusion is consistent with the finding that 60 percent of the students working were from Arts and Sciences programs, programs that are designed to prepare students for further study rather than direct entry to the labour market.

Whether working full-time or part-time, the median salary of students working was lower than respondents who saw themselves as workers who were studying. They were younger, more often female and much more likely (55 percent compared to 17 percent) to be enrolled at university rather than a college or institute.

This analysis highlights the importance of taking students' own goals and perceptions into account when interpreting seemingly objective outcomes measures such as labour market activities.

The Generic Skills Needed in the Labour Force

Issue paper using 2000 data, published in 2002 (Vol. 2 No. 3 Winter 2002)

Successful employees possess not only specific content knowledge about their jobs but also what the Conference Board of Canada calls generic employability skills, a mix of basic academic skills, personal management attributes, and team skills. The 2000 CISO survey asked former students how well their programs provided opportunities to develop a number of academic and personal skills—for this analysis those questions were grouped into six indices that reflect employability skills.

Components of employability skills

Communication	Speak effectively Write clearly and concisely
Comprehension	Analyze, think critically, solve problems Read and comprehend material
Learning	Appreciate personal growth Desire to be a life-long learner
Team Skills	Provide leadership Work effectively with others
Social & Ethical Awareness	Appreciate ethnic and cultural diversity Make ethical decisions
Technical Skills	Use mathematics Use computers Use other equipment

Former students were generally positive about the opportunities their program had given them to develop the full range of employability skills. Opportunities to develop comprehension, learning, and team skills received the highest ratings, followed by social and ethical awareness. Technical and communication skills were seen as the least likely to be promoted in their programs, and were the most frequently reported by the respondents as not being applicable to their particular program.

It seems reasonable that some programs would not promote technical skills, but the less positive ratings for communication skills were consistent with a finding of the Business Council of BC that communication skills are the most likely to be lacking in applicants in all occupational categories.

There was a relationship between respondents' ratings of employability skills and their judgement of how useful their programs were to their job performance. The average scores for all of the employability skills were higher for those respondents who indicated their programs were "very useful" to job performance.

Student Finances

Meeting the Costs: Post-Secondary Student Funding and Debt

Information paper using 2003 and 2001 data, published in 2004 (Vol. 2 No. 2 Summer 2004)

In 2003, 43 percent of former college, university college, and institute students reported that they had borrowed money to finance their education: 34 percent had government student loans and 17 percent had borrowed from non-government sources (9 percent had loans from both sources).

Of the former students who reported loans in 2003, half had borrowed less than $8,000 (median amount)—their average loan was approximately $10,500 (mean amount). Just over a tenth of those who borrowed owed more than $20,000 at the completion of their studies. For respondents who had government loans, the median amount borrowed was $8,000, as well. After they completed their studies, 29 percent of these borrowers received some loan forgiveness, i.e. "remission," by the BC government.

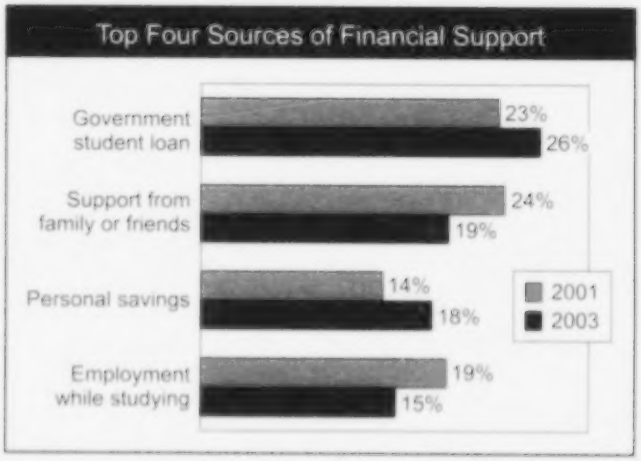
Loan amounts varied considerably across different types of borrowers. Survey respondents most likely to have borrowed for their studies were:

- aged 23 to 29 at the time of the survey
- those who had relocated to study
- single parents
- those who took longer programs

As expected, the strongest association with loan amounts came from program length. The longer students stayed at college, the more they borrowed.

Loans are just one source of income for students. When 2001 and 2003 respondents were asked about their primary source of financial support, they reported a large number of resources—the top was government student loans.

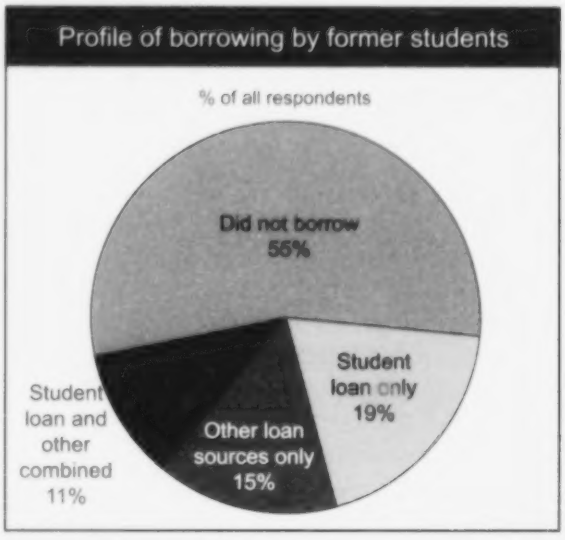
Former students were also asked to report their second most important source of financial support while studying. The most cited secondary sources—for both survey years—were employment while studying, personal savings, and non-repayable support from family or friends—in that order.



How Former Students Financed their College, University College, and Institute Programs

Special report (41 pages) using 2001 data, published in Spring 2002

Less than half of the former students surveyed in 2001 reported borrowing money to cover their educational costs. The largest portion of debt was made up of government student loans—30 percent of respondents had received a student loan—although loans from other sources (family and friends, credit cards, or banks) were reported by 26 percent of respondents.



For the 45 percent of respondents who borrowed for their education, the median amount of their debt from all sources was $7,000. Two-thirds of those with debt owed $10,000 or less. At the time of the survey, the majority of those who borrowed had begun making repayments. Although many respondents expressed concern about the amount of the loan they had to repay—29 percent of those who had started repaying said they were having difficulty making their payments—just as many made the comment that they should have been able to borrow more.

There is no question that family support played a crucial role in mitigating debt. Younger students and those who said that subsidized room and board or funds from family or friends had been a major source of education funding had debt amounts that were significantly lower than average. Former students who had no debt were more likely than those with debt to say that family support had been a major source of funding.

Employment while studying reduced the potential debt load for many former students, although it was necessary to work more than 15 hours a week to make a difference. Employment was even more important for respondents without debt—over 50 percent said it was a top source of education funding, compared with 39 percent of those with debt.

It is important to note that in 2001 over half of the former students surveyed left their college, university college, or institute program without debt, and the majority of those who borrowed accumulated debts of less than $10,000. However, for 14 percent of all respondents—those who owed more than $10,000—the debt burden could have been significant, particularly for single parents, respondents with disabilities, and those previously on income assistance.

Institutional Operations and Impacts

Student Mobility Patterns: Tracing the Movement of Former College, University College, and Institute Students, In and Out of College Regions

Information paper using 2005 data, published in 2006 (Vol. 4 No. 2 Summer 2006)

Unlike universities with their large regional and provincial mandates, community colleges were established in the 1960s and 1970s to meet local educational, labour market, and social needs. A generation later, to what extent do students relocate to attend college or to find a job after college? The answer, from the 2005 CISO survey, is that most former college, university college, and institute students studied close to home and, of the former students who studied in a region other than the one in which their high school was located, 60 percent returned to their home region after studying. Lower Mainland residents in particular were likely to remain geographically close to home.

This analytical paper identified five mobility patterns and then classified CISO survey respondents, according to their movements between college regions (based on their locations for high school, for post-secondary education, and when surveyed).

Those who stayed in one region throughout were younger, on average, and more likely than other respondents to have studied Arts and Sciences, which are offered at most institutions. Respondents who moved to attend post-secondary and returned afterward were more likely to have taken applied programs; they were as young as stayed respondents, but a little more likely to be male. Former students who moved into their study region were the most likely to be female; they were older and had high rates of previous education. The group of mobile respondents had the highest rate of previous education and the lowest rate of further education—their employment outcomes were excellent. Launched respondents took Arts and Sciences at high rates and were the most likely to go on to further studies, especially university.

Mobility patterns are based on respondents' movements in and out of college regions

Category	Mobility Pattern	Respondents %	Respondents n
Stayed	**Stayed in home college region to attend post-secondary and were still in that college region after post-secondary**	**50%**	**12,449**
Returned	Moved from home college region before or for post-secondary studies but returned home afterwards	26%	6,519
Moved	**Moved from home college region before or for post-secondary studies and stayed in the college region where they studied**	**11%**	**2,777**
Mobile	Moved from home college region before or for post-secondary studies and then moved afterwards to someplace else (not home, not study region)	7%	1,628
Launched	**Attended post-secondary in home college region and then left after post-secondary**	**5%**	**1,292**

Notes: "Home" is the BC college region where respondents last attended high school. "Post-secondary" refers to study at a college, university college, institute, or Thompson Rivers University.

2005 Admissions and Transfer Experiences of Students Continuing Their Studies in British Columbia

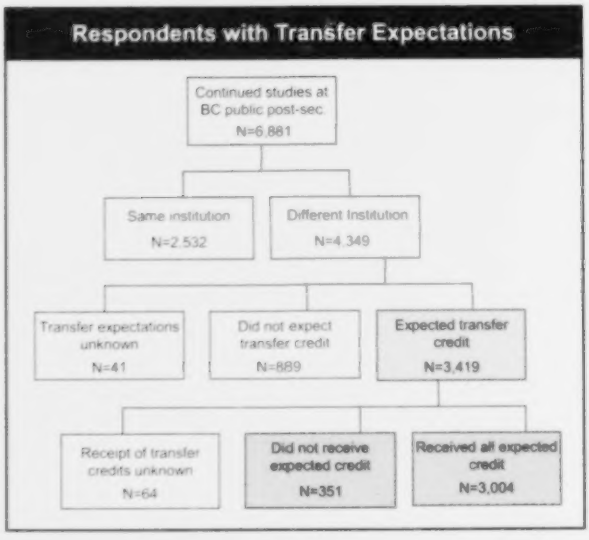
Special report (68 pages) using 2005 data, published in January 2006

Almost half (47 percent) of CISO respondents continued their education after leaving their original program. The BC Council on Admissions and Transfer (BCCAT) funded a special analysis of these students that focussed on their subsequent admission to new programs and their transfer of course credits towards their new credential.

Respondents continuing their studies were younger, more likely to be female, and tended to have less experience in the post-secondary system. Three-quarters of students who had completed at least 24 credits in their Arts and Sciences programs (the minimum threshold for inclusion in the CISO survey) pursued further study, compared with just over one-third of students from Applied programs. However, because there were more students from Applied programs in the college and institute system, they made up more than half (52 percent) of those who continued.

Of the respondents who continued their studies, 94 percent remained in BC, most entering a program in a public institution. Of these students continuing their studies in a BC public institution, almost two-thirds transferred to a different institution; the remaining third started a new program at the same institution they had been attending. Of those transferring to a new institution, over two-thirds went to a university.

Most students who continued their education at a different BC public institution were accepted into their institution of choice (89 percent), their preferred program (94 percent), and all of their desired courses (83 percent). Most expected to transfer credits to their new institution and, of these, 90 percent indicated that they had received all the course transfer credits they expected. The most common reasons for not receiving all their transfer credits was that the credits did not count towards their new credential (although they may have counted towards other credentials at the new institution) or that the original course was not actually designed for transfer to the new institution.



Respondents expressed a high level of satisfaction with their overall transfer experience; less than 10 percent were unsatisfied. That transfer experiences were positive for such large numbers of students is an important finding for BC's public post-secondary system—a system that was originally designed to facilitate the flow of students out of colleges around the province into what were then three universities clustered in the southwest of the province.

Evaluation of Services and Facilities by Former College, University College, and Institute Students

Special report (17 pages) using 1999 data, published in 2001

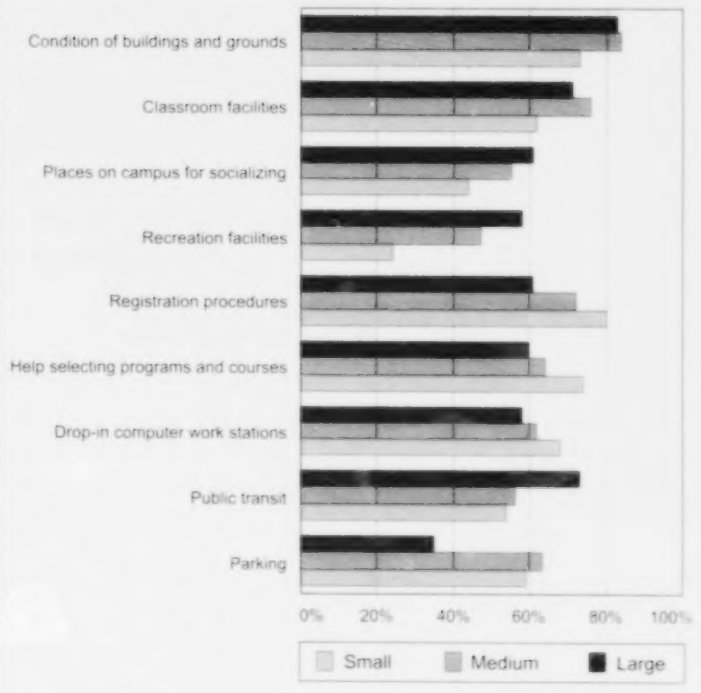
In 1999, a series of questions on institutions' services and facilities was asked of approximately half the survey respondents. Some questions referred only to the campus where they took most of their courses; other questions were more general and referred to the institution as a whole.

Former students were generally satisfied with campus services and facilities. Most highly rated were the provision of a climate free from harassment or discrimination, buildings and grounds, and a sense of safety at night. Library and financial aid services received moderately high ratings. The lowest ratings were given to parking facilities and to services the institutions provided to help find employment.

The ratings the respondents gave to services and facilities varied to some extent according to the size of the institution. Some services, such as registration procedures, received higher ratings at small institutions, whereas other services, such as public transit and places to socialize, did better at large institutions.

Ratings were also somewhat affected by the respondents' field of studies. Former Adult Basic Education students rated most services higher than other former students, and respondents from the Arts and Sciences were usually the least satisfied.

Services and facilities rated "very good' or "good" by campus size



Note: Percentages exclude respondents who said the service was "not applicable."

Appendix

The People Behind the Reports

What is now the BC College and Institute Student Outcomes (CISO) Survey project originated in 1984 as a collaborative effort of four BC institutions: BCIT, Camosun College, Capilano College, and Vancouver Community College. Government quickly recognized the value of this work and provided the support to expand surveying to all BC colleges and institutes. A provincial steering committee emerged in 1986—the Outcomes Working Group (OWG)—to oversee the project. The OWG is now a long-standing partnership among the Ministry of Advanced Education, colleges, university colleges, institutes, a special purpose university, and a number of system-wide organizations: the Senior Academic Administrators' Forum, the Senior Educational Services Administrators' Forum, the BC Registrars' Association, and the BC Council on Admissions and Transfer.

OWG meetings have had their share of vigorous debate, but the members' shared commitment to providing high quality data to inform the making of sound educational policy and to improving the post-secondary opportunities of BC residents has enabled OWG to be a very productive body and to serve as a model of effective government-institution collaboration.

CISO is large project and requires dedicated, full-time staff to handle the day-to-day activities, which include project planning, contract management for data collection, survey design, data validation, maintaining the database, and conducting the analyses that ultimately appear in reports and tables at varying levels of detail and aggregation. Over the past decade, OWG has received superb professional support from its contractors, originally from the Centre for Education Information (CEIS) and more recently from BC Stats.

The OWG itself represents a heavy commitment for its members, because in addition to helping set directions, each member is expected to make a hands-on contribution to the project. Along with project staff, thanks and recognition are very much in order for OWG members, past and present.

CISO Personnel

Some individuals have been involved for a decade or more; others served for only a brief term.

OWG Members

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BC STATS
Ministry of Labour and Citizens' Services

This report is available on the BC College and Institute Student Outcomes (CISO) website at http://outcomes.bcstats.gov.bc.ca/Publications/index.asp